

Practice 2-2

Biconditionals and Definitions

Each conditional statement is true. Consider each converse. If the converse is true, combine the statements and write them as a biconditional.

- 1. If two angles have the same measure, then they are congruent.
- 2. If $2x - 5 = 11$, then $x = 8$.
- 3. If $n = 17$, then $|n| = 17$.
- 4. If a figure has eight sides, then it is an octagon.

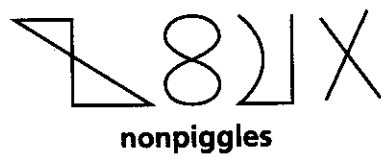
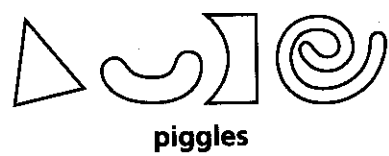
Write the two conditional statements that make up each biconditional.

- 5. A whole number is a multiple of 5 if and only if its last digit is either a 0 or a 5.
- 6. Two lines are perpendicular if and only if they intersect to form four right angles.
- 7. You live in Texas if and only if you live in the largest state in the contiguous United States.

Explain why each of the following is not an acceptable definition.

- 8. An automobile is a motorized vehicle with four wheels.
- 9. A circle is a shape that is round.
- 10. The median of a set of numbers is larger than the smallest number in the set and smaller than the largest number in the set.
- 11. Cricket is a game played on a large field with a ball and a bat.
- 12. A rectangle is a very pleasing shape with smooth sides and very rigid corners.

Some figures that are *piggles* are shown below, as are some *nonpiggles*.



Tell whether each of the following is a *piggle*.

